AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listing of claims in the above-referenced application.

Listing of Claims:

1. (Currently Amended) A method of dynamically creating a communication path between first and second storage devices, comprising:

creating a connection to a source volume on the first storage device and indicating that the source volume is not ready to transmit data on the communication path;

determining which of said source volume and a destination volume contains an initial set of data;

after successfully creating the connection to the source volume, creating a connection to the destination volume on the second storage device and initially indicating that portions of one of: the destination volume and the source volume do not contain valid copies of data in accordance with which of said destination and said source volumes contains said initial set of data, ~~wherein the destination volume accepts data from the source volume~~; and

after successfully creating the connections to the source and destination volumes, indicating that the source volume is ready to transmit data on the communication path; and

transferring the initial set of data from one of the source volume and the destination volume to the other one the source volume and the destination volume while transferring data written after the initial data from the source volume to the destination volume.

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2. (original) A method, according to claim 1, further comprising:

creating at least one of: the source volume and the destination volume.

3. (original) A method, according to claim 1, wherein creating the connection to the source volume includes modifying a table containing configuration information for the first storage device.

4. (original) A method, according to claim 3, wherein creating the connection to the destination volume includes modifying a table containing configuration information for the second storage device.

5. (original) A method, according to claim 1, further comprising:

following unsuccessfully creating a connection to the destination volume, destroying the connection to the source volume.

6. (original) A method, according to claim 5, further comprising:

returning an error indication.

7. (original) A method, according to claim 1, wherein portions of the destination volume are initially indicated as not containing valid data.

8. (original) A method, according to claim 7, further comprising:

after indicating that the source volume is ready to transmit data on the communication path, initiating a background copy operation to copy data from the source volume to the destination volume.

9. (original) A method, according to claim 1, wherein portions of the source volume are initially indicated as not containing valid data.

10. (original) A method, according to claim 9, further comprising:

after indicating that the source volume is ready to transmit data on the communication path, initiating a background copy operation to copy data from the destination volume to the source volume.

11. (original) A method, according to claim 10, further comprising:

the host performing an I/O operation on a particular portion of the source volume.

12. (original) A method, according to claim 11, further comprising:

in response to the particular portion being indicated as containing invalid data, copying data corresponding to the particular portion from the destination volume to the source volume prior to completing the I/O operation.

13. (Currently Amended) A method of dynamically creating a communication path between first and second storage devices, comprising:

creating a connection to a destination volume on the first storage device;

determining which of said destination volume and a source volume contains an initial set of data;

after successfully creating the connection to the destination volume, creating a connection to the source volume on the second storage device and indicating that the source volume is not ready to transmit data on the communication path and initially indicating that portions of one of: the destination volume and the source volume do not contain valid copies of data in accordance with which of said destination and said source volumes contains said initial set of data, wherein the destination volume accepts data from the source volume; and

after successfully creating the connections to the source and destination volumes, indicating that the source volume is ready to transmit data on the communication path; and

transferring the initial set of data from one of the source volume and the destination volume to the other one the source volume and the destination volume while transferring data written after the initial data from the source volume to the destination volume.

14. (original) A method, according to claim 13, further comprising:

        creating at least one of: the source volume and the destination volume.

15. (original) A method, according to claim 13, wherein creating the connection to destination volume includes modifying a table containing configuration information for the first storage device.

16. (original) A method, according to claim 15, wherein creating the connection to the source volume includes modifying a table containing configuration information for the second storage device.

17. (original) A method, according to claim 13, further comprising:

        following unsuccessfully creating a connection to the source volume, destroying the connection to the destination volume.

18. (original) A method, according to claim 17, further comprising:

        returning an error indication.

19. (original) A method, according to claim 13, wherein portions of the destination volume are initially indicated as not containing valid data.

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20. (original) A method, according to claim 19, further comprising:

after indicating that the source volume is ready to transmit data on the communication path, initiating a background copy operation to copy data from the source volume to the destination volume.

21. (original) A method, according to claim 13, wherein portions of the source volume are initially indicated as not containing valid data.

22. (original) A method, according to claim 21, further comprising:

after indicating that the source volume is ready to transmit data on the communication path, initiating a background copy operation to copy data from the destination volume to the source volume.

23. (original) A method, according to claim 22, further comprising:

the host performing an I/O operation on a particular portion of the source volume.

24. (original) A method, according to claim 23, further comprising:

in response to the particular portion being indicated as containing invalid data, copying data corresponding to the particular portion from the destination volume to the source volume prior to completing the I/O operation.

25. (Currently Amended) A computer program product that creates a communication path between first and second storage devices, comprising:

executable code that creates a connection to a source volume on the first storage device and indicates that the source volume is not ready to transmit data on the communication path;

executable code that determines which of said source volume and a destination volume contains an initial set of data;

executable code that creates a connection to ~~a~~ the destination volume on the second storage device and initially indicates that portions of one of: the destination volume and the source volume do not contain valid copies of data after successfully creating the connection to the source volume in accordance with which of said destination and said source volumes contains said initial set of data~~, wherein the destination volume accepts data from the source volume~~; and

executable code that indicates that the source volume is ready to transmit data on the communication path after successfully creating the connections to the source and destination volumes; and

executable code that transfers the initial set of data from one of the source volume and the destination volume to the other one the source volume and the destination volume while transferring data written after the initial data from the source volume to the destination volume.

26. (original) A computer program product, according to claim 25, further comprising:

executable code that creates at least one of: the source volume and the destination volume.

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27. (original) A computer program product, according to claim 25, where executable code that creates the connection to the source volume modifies a table containing configuration information for the first storage device.

28. (original) A computer program product, according to claim 27, wherein executable code that creates the connection to the destination volume modifies a table containing configuration information for the second storage device.

29. (original) A computer program product, according to claim 25, further comprising:

executable code that destroys the connection to the source volume following unsuccessfully creating a connection to the destination volume.

30. (original) A computer program product, according to claim 25, further comprising:

executable code that returns an error indication.

31. (original) A computer program product, according to claim 25, further comprising:

executable code that causes portions of the source volume to be initially indicated as not containing valid data.

32. (original) A computer program product, according to claim 31, further comprising:

executable code that initiates a background copy operation to copy data from the destination volume to the source volume after indicating that the source volume is ready to transmit data on the communication path.

33. (original) A computer program product, according to claim 32, further comprising:

executable code that copies data corresponding to a requested portion from the destination volume to the source volume prior to completing an I/O operation in response to the requested portion being indicated as containing invalid data.

34. (Currently Amended) A computer program product that dynamically creates a communication path between first and second storage devices, comprising:

executable code that creates a connection to a destination volume on the first storage device;

executable code that determines which of said destination volume and a source volume contains an initial set of data;

executable code that creates a connection to a the source volume on the second storage device and indicates that the source volume is not ready to transmit data on the communication path and initially indicates that portions of one of: the destination volume and the source volume do not contain valid copies of data after successfully creating the connection to the destination volume in accordance with which of said destination and said source volumes contains said initial set of data, wherein the destination volume accepts data from the source volume; and

executable code that indicates that the source volume is ready to transmit data on the communication path after successfully creating the connections to the source and destination volumes; and

executable code that transfers the initial set of data from one of the source volume and the destination volume to the other one the source volume and the destination volume while transferring data written after the initial data from the source volume to the destination volume.

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35. (original) A computer program product, according to claim 34, further comprising:

executable code that creates at least one of: the source volume and the destination

volume.

36. (original) A computer program product, according to claim 34, where executable code that

creates the connection to the source volume modifies a table containing configuration

information for the first storage device.

37. (original) A computer program product, according to claim 34, wherein executable code that

creates the connection to the destination volume modifies a table containing configuration

information for the second storage device.

38. (original) A computer program product, according to claim 34, further comprising:

executable code that destroys the connection to the destination volume following

unsuccessfully creating a connection to the source volume.

39. (original) A computer program product, according to claim 38, further comprising:

executable code that returns an error indication.

40. (Previously Presented) The method of Claim 1, further comprising:

initiating a background copy operation to copy data from the destination volume to the source volume if the destination volume contains the initial set of data;

issuing, from a host, an I/O operation to a portion of said source volume;

if said destination volume contains said initial set of data, determining if said portion is invalid indicating that said portion has not yet been copied to said source volume, and, if said portion is invalid, using said destination volume for said I/O operation, and using said source volume for said I/O operation otherwise; and

if said source volume contains said initial set of data, using said source volume for said I/O operation.

41. (Previously Presented) The method of Claim 40, wherein said destination volume contains said initial set of data and said I/O operation is issued while said background copy operation has not completed.

42. (Previously Presented) The method of Claim 13, further comprising:

initiating a background copy operation to copy data from the destination volume to the

source volume if the destination volume contains the initial set of data;

issuing, from a host, an I/O operation to a portion of said source volume;

if said destination volume contains said initial set of data, determining if said portion is

invalid indicating that said portion has not yet been copied to said source volume, and, if said

portion is invalid, using said destination volume for said I/O operation, and using said source

volume for said I/O operation otherwise; and

if said source volume contains said initial set of data, using said source volume for said

I/O operation.

43. (Previously Presented) The method of Claim 42, wherein said destination volume

contains said initial set of data and said I/O operation is issued while said background copy

operation has not completed.

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44. (Previously Presented) The computer program product of Claim 25, further comprising:

executable code that initiates a background copy operation to copy data from said destination volume to said source volume if said destination volume contains said initial set of data;

executable code that issues, from a host, an I/O operation to a portion of said source volume;

executable code that, if said destination volume contains said initial set of data, determines if said portion is invalid indicating that said portion has not yet been copied to said source volume, and, if said portion is invalid, uses said destination volume for said I/O operation, and uses said source volume for said I/O operation otherwise; and

executable code that, if said source volume contains said initial set of data, uses said source volume for said I/O operation.

45. (Previously Presented) The computer program product of Claim 44, wherein said destination volume contains said initial set of data and said I/O operation is issued while said background copy operation has not completed.

46. (Previously Presented) The computer program product of Claim 34, further comprising:

executable code that initiates a background copy operation to copy data from said destination volume to said source volume if said destination volume contains said initial set of data;

executable code that issues, from a host, an I/O operation to a portion of said source volume;

executable code that, if said destination volume contains said initial set of data, determines if said portion is invalid indicating that said portion has not yet been copied to said source volume, and, if said portion is invalid, uses said destination volume for said I/O operation, and uses said source volume for said I/O operation otherwise; and

executable code that, if said source volume contains said initial set of data, uses said source volume for said I/O operation.

47. (Previously Presented) The computer program product of Claim 46, wherein said destination volume contains said initial set of data and said I/O operation is issued while said background copy operation has not completed.

48. (Previously Presented) The method of Claim 4, wherein said configuration information for the first and second storage devices included in said tables is dynamic configuration data, current configuration data at a point in time is determined using said dynamic configuration data and static configuration data and data about said source and destination volumes included in said dynamic configuration data overrides other data about said source and destination volumes included in said static configuration data.

49. (Previously Presented) The method of Claim 4, wherein said configuration information for the first and second storage devices included in said tables is dynamic configuration data, current configuration data at a point in time is determined using said dynamic configuration data and static configuration data and data about said source and destination volumes included in said dynamic configuration data is used to supplement other data about said source and destination volumes included in said static configuration data, said dynamic configuration data being used when there is no data in said static configuration data corresponding to a particular item.

50. (Previously Presented) The computer program product of Claim 16, wherein said configuration information for the first and second storage devices included in said tables is dynamic configuration data, current configuration data at a point in time is determined using said dynamic configuration data and static configuration data and data about said source and destination volumes included in said dynamic configuration data overrides other data about said source and destination volumes included in said static configuration data.

51. (Previously Presented) The computer program product of Claim 16, wherein said configuration information for the first and second storage devices included in said tables is dynamic configuration data, current configuration data at a point in time is determined using said dynamic configuration data and static configuration data and data about said source and destination volumes included in said dynamic configuration data is used to supplement other data about said source and destination volumes included in said static configuration data, said dynamic configuration data being used when there is no data in said static configuration data corresponding to a particular item.

52. (Currently Amended) A system comprising:

a host computer; and

a local storage device connected to a remote storage device, wherein said host includes:

executable code that sends an I/O request to said local storage device; and

executable code that sends a command to dynamically create a communication path between said local storage device and said remote storage device; and

wherein the system further includes:

executable code that creates a connection to a source volume on the local storage device and indicates that a source volume on the local storage device is not ready to transmit data on the communication path;

executable code that determines which of said source volume and a destination volume on the remote storage device contains an initial set of data;

executable code that creates a connection to a destination volume on the second storage device and initially indicates that portions of one of: the destination volume and the source volume do not contain valid copies of data after successfully creating the connection to the source volume in accordance with which of said destination and said source volumes contains said initial set of data, ~~wherein the destination volume accepts data from the source volume; and~~

executable code that indicates that the source volume is ready to transmit data on the communication path after successfully creating the connections to the source and destination volumes; and

executable code that transfers the initial set of data from one of the source volume and the destination volume to the other one the source volume and the destination volume while transferring data written after the initial data from the source volume to the destination volume.

53. (Withdrawn) A method for determining configuration data comprising:

performing one of: creating and destroying a communication path between a first volume on a first storage device and a second volume on a second storage device;

updating dynamic configuration data in accordance with said performing;

determining if dynamic configuration data includes data about said first and second volumes; and

if said dynamic configuration data includes data about said first and second volumes, using said dynamic configuration data, otherwise using said static configuration data about said first and second volumes, wherein said communication path is used for automatically copying data from said first volume to said second volume when a write operation occurs to said first volume.

54. (Withdrawn) The method of Claim 53, further comprising:

issuing, from a host, a command to perform one of said creating and said destroying in connection with said first storage device that is a local storage device with respect to said host, and said second storage device that is a remote storage device with respect to said host; and

issuing, from said host, a write operation to said first volume.

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55. (Withdrawn) A method for determining configuration data comprising:

performing one of: creating and destroying a communication path between a first volume on a first storage device and a second volume on a second storage device;

updating dynamic configuration data in accordance with said performing;

determining if dynamic configuration data includes data about said first and second volumes; and

if said static configuration data includes data about said first and second volumes, using said static configuration data, otherwise using said dynamic configuration data about said first and second volumes, wherein said communication path is used for automatically copying data from said first volume to said second volume when a write operation occurs to said first volume.

56. (Withdrawn) The method of Claim 53, further comprising:

issuing, from a host, a command to perform one of said creating and said destroying in connection with said first storage device that is a local storage device with respect to said host, and said second storage device that is a remote storage device with respect to said host; and

issuing, from said host, a write operation to said first volume.

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